QUICKLOAD PROGRAM
TECHNICAL DATA PACKAGE

Storage of Mixed Munitions in Conex Containers

Developed by
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1. EXECUTIVE SUMMARY

A. Description:

This technical data package (TDP) describes a method for storing certain mixed munitions in a conex container at reduced quantity-distance.

B. Use:

This TDP applies to theaters of operations basic load ammunition holding areas as well as other CONUS/OCONUS operations. The munitions which may be stored are maximum 500 lbs of Class/Division 1.1 bulk high explosives or demolition charge material (Comp C-4, TNT, etc) plus any combination of the ammunition listed in figure 1. Standard storage compatability restrictions apply as contained in Army Regulation 385-64.

C. Benefits:

Compliance with this TDP reduces the inhabited building distance (IBD) to 360 feet. AR 385-64 normally requires 1250 feet if chapter 10 is not authorized or 886 feet if chapter 10 is authorized. The inter-magazine spacing between conexes is reduced to 8 feet. The normal AR 385-64 and AR 385-64 chapter 10 requirement is 96 feet.

D. Building Information:

Although not required for the quantity-distance reduction, optional sandbag wall barricades may be built on three sides of the conex container with two layers of sandbags on the roof. In the event of a detonation, the sandbags reduce damage to adjacent conex containers.

E. Lifetime:

The lifetime is limited by the lifetime of the sandbags. The sandbags should be inspected every month for deterioration and replaced periodically as required.

F. Drawbacks:

The TDP only allows storage of the specific munitions indicated. All other munitions are excluded. Storage of other munitions nullifies the reduced quantity distances and requires the standard quantity distances be used.

2. BACKGROUND

Conex containers are used in many parts of the world to store basic load ammunition close to the forces who will use it. If the separation distance between loaded conex containers is less than the required value, as it is in many cases, propagation of detonation between containers is presumed to occur; and in this case, quantity distance determinations must be based on the total explosive weight in all containers. The Department of Defense Explosive Safety Board and the Project Manager Ammunition Logistics requested the tests which resulted in this TDP to see if the AR 385-64 standards could be relaxed.

3. ITEM DESCRIPTION

A standard container express (CONEX) is used. Although not required for the quantity-distance reduction, optional sandbag wall barricades may be built. In the event of a detonation, the sandbags reduce damage to adjacent conex containers. The sand bag wall barricades and the conex spacing is shown in figure 2.

4. USE OF THE ITEM

A. This TDP applies to theaters of operations basic load ammunition holding areas as well as other CONUS/OCONUS operations.

B. The munitions which may be stored are maximum 500 lbs of bulk high explosive or demolition charge material (Comp C-4, TNT, etc) plus any combination of the munitions listed in figure 1. The maximum quantity listed for each munition type may not be exceeded. All other munitions are excluded.

C. If Chapter 10 of AR 385-64 is authorized, compatability requirements do not apply. If chapter 10 of AR 385-64 is not authorized, chapter 3 allows authorized DoD components to mix compatability groups except items in Groups A, K, and L in limited quantities (generally 1000 lbs or less).

5. BENEFITS

A. The inhabited building distance (IBD) is reduced to 360 feet. Army Regulation 385-64 normally requires 1250 feet if chapter 10 is not authorized or 886 feet if it is authorized.

B. The inter-magazine spacing between conexes is reduced to 8 feet. The normal AR 385-64 and AR 385-64 chapter 10 requirement is 96 feet.

6. LIFE EXPECTANCY

The lifetime is limited by the lifetime of the sandbags. The sandbags should be inspected every month for deterioration and replaced periodically as required.

7. SITE PLANS SUBMISSION

A site plan must be submitted in accordance with AR 385-60 and AR 385-64 to the Department of Defense Explosives Safety Board and approval must be obtained prior to the start of construction.

8. CONSTRUCTION

The optional sandbag wall barricades may be constructed with troop labor using standard procedures. The walls are recommended on three sides; rear, left side and right side. The side walls should connect to the rear wall. As shown in figure 1, the sand bag walls are constructed of three sections. The bottom section is approximately 4 feet thick by 4 feet high. The middle section is approximately 3 feet thick by 2 feet high. The top section is approximately 2 feet thick by 2 feet high. The final height of the wall should be at least one foot taller than the height of the conex container. Two layers of sandbags are recommended on the roof of the conex.

9. REFERENCES

1. Lawrence, W., Fragment Hazards From Munitions in Containers, BRL-TR-3203, Feb 91.

2. Swisdak, M., Naval Surface Warfare Center Analysis of the Fragmentation Data Presented in BRL-TR-3203, NSWC, White Oak

10. ACKNOWLEDGEMENTS

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11. ADDITIONAL INFORMATION

Any questions or comments related to this Technical Data Package or the Quickload Program should be directed to:

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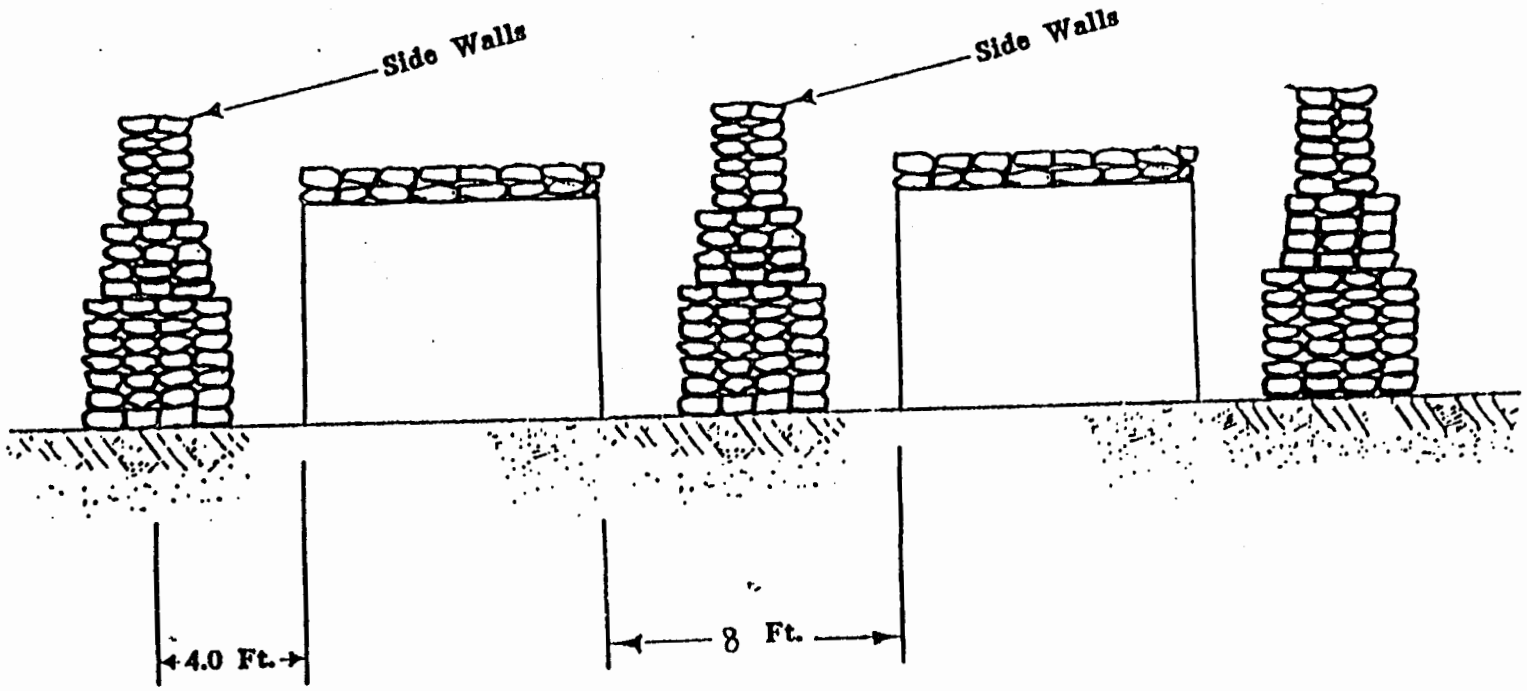
APPROVED MUNITIONS

MUNITION TYPE	MAXIMUM QUANTITY
CTG, Cal .45 Ball and .50 Cal (all types)	3,160 Rds
CTG, 5.56mm Ball (all types)	29,530 Rds
CTG, 7.62mm Ball (all types)	9,370 Rds
Grenade, Smoke (all types)	176 EA
File Destroyer, M4	1 EA
Signal, Illum Ground (all types)	260 EA

Figure 1

Figure 2



Conex Spacing and Optional Sandbag Wall Barriers